ANSWER 17 OF 991 MEDLINE on STN

AN 2007098331 MEDLINE

DN PubMed ID: 17297264

TI Neuroprotective effects of growth hormone against hypoxic-ischemic brain injury in neonatal rats: 1H magnetic resonance spectroscopic study.

AU Han Tai Ryoon; Chun Min Ho; Jang Dae Hyun; Kim Ki-Soo; Lim Keun Ho; Cho Hee Jin

CS Department of Rehabilitation Medicine, Seoul National University College of Medicine, Seoul, Korea.

SO Journal of Korean medical science, (2007 Feb) Vol. 22, No. 1, pp. 122-6. Journal code: 8703518. ISSN: 1011-8934.

CY Korea (South)

DT Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Priority Journals

EM 200703

ED Entered STN: 14 Feb 2007
Last Updated on STN: 29 Mar 2007
Entered Medline: 28 Mar 2007

AB Using 1H-MRS, we evaluated the effects of growth hormone (GH) as a caspase inhibitor on hypoxic-ischemic injury in neonatal rat brains. The right common carotid arteries of rats were ligated, allowed to recover for 3 hr, and exposed to 8% oxygen for 2 hr. GH was given just prior to HI insult and animals were divided into four groups: control, intracerebroventricular (ICV), intracerebroventricular/intraperitoneal (ICV/IP), and intraperitoneal (IP). Localized in vivo 1H-MRS and TUNEL staining were performed 24 hr after HI injury. Lipid/N-acetyl aspartate (NAA) and lipid/creatine (Cr) ratios were used as apoptotic markers. Gross morphologic changes at 2 weeks were used to evaluate the effects of GH. The lipid/NAA ratio was lower in the ICV and ICV/IP groups than in the control, and the lipid/Cr ratio was lower in the ICV group than in the control. The number of TUNEL positive cells was decreased in the ICV and ICV/IP groups, and the degree of morphologic change indicative of brain injury was lower in the ICV group and somewhat lower in the ICV /IP group. The degree of morphologic change correlated with the lipid/NAA and lipid/Cr ratios. These findings suggest that GH exerts neuroprotective effects in cerebral hypoxic-ischemic injury.

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ANSWER 898 OF 991 MEDLINE on STN

AN 82072588 MEDLINE

DN PubMed ID: 6118262

TI Intraventricularly injected growth hormone stimulates somatostatin release into rat hypophysial portal blood.

AU Chihara K; Minamitani N; Kaji H; Arimura A; Fujita T

SO Endocrinology, (1981 Dec) Vol. 109, No. 6, pp. 2279-81. Journal code: 0375040. ISSN: 0013-7227.

CY United States

DT Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 198202

ED Entered STN: 16 Mar 1990
Last Updated on STN: 6 Feb 1995
Entered Medline: 22 Feb 1982

AB The effects of GH on the release of somatostatin from the hypothalamus were assessed by measuring the concentrations of immunoreactive somatostatin (IRS) in hypophysial portal blood of urethane-anesthetized male rats. A significant and dose-related increase of IRS in hypophysial portal blood was observed during 20-80 min after a single injection of rat GH (5 and 25 micrograms) into the third ventricle. An intraventricular injection of ovine LH or vehicle alone did not affect IRS values in hypophysial portal blood. When rat GH was repeatedly injected into the cerebral ventricle at 75-min intervals, IRS in hypophysial portal blood rose following each injection in a similar pattern with a latency of 30-45 min. These findings suggest that the release of somatostatin from the hypothalamus is regulated, at least in part, by GH. Furthermore, in view of the inhibitory effect of somatostatin on GH secretion, stimulation by GH of somatostatin release into hypophysial portal blood may be involved in the mechanism by which GH regulates its own secretion.

ANSWER 855 OF 991 MEDLINE on STN

AN 85179301 MEDLINE

DN PubMed ID: 3921349

TI Effects of intraventricular growth hormone -releasing factor on growth hormone release: further evidence for ultrashort loop feedback.

AU Lumpkin M D; Samson W K; McCann S M

NC AM-10073 (NIADDK)
HD-07062 (NICHD)
HD-09988 (NICHD)

SO Endocrinology, (1985 May) Vol. 116, No. 5, pp. 2070-4.
Journal code: 0375040. ISSN: 0013-7227.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 198505

ED Entered STN: 20 Mar 1990
Last Updated on STN: 3 Feb 1997
Entered Medline: 30 May 1985

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ANSWER 833 OF 991 MEDLINE on STN

AN 86128890 MEDLINE

DN PubMed ID: 3947008

TI Influence of growth hormone on nasal septal growth in rats.

AU Vetter U; Heinze E; Voigt K H; Pirsig W

SO The Annals of otology, rhinology, and laryngology, (1986 Jan-Feb) Vol. 95, No. 1 Pt 1, pp. 91-3.
Journal code: 0407300. ISSN: 0003-4894.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 198603

ED Entered STN: 21 Mar 1990
Last Updated on STN: 21 Mar 1990
Entered Medline: 21 Mar 1986

AB Growth activity of the rat septal cartilage was evaluated by incorporating radiolabeled sulfate into three areas of the septal cartilage (anterior, central, and posterior). Growth activity of the septal cartilage was determined in normal rats and in hypophysectomized rats treated either with saline or human growth hormone (hGh) injections. Human growth hormone treatment selectively stimulated sulfate incorporation in the posterior area, which is situated anterior to the septoethmoidal junction, whereas sulfate incorporation was not influenced in the anterior and central area by hGh treatment compared to saline treatment. However, both wet and dry weight was significantly increased by hGh treatment compared to saline treatment in hypophysectomized rats.

ANSWER 812 OF 991 MEDLINE on STN
AN 87044838 MEDLINE
DN PubMed ID: 2877535
TI The effects of intranasal insufflation of growth hormone releasing factor analogue GRF 1-29 NH2 on growth hormone secretion in children with short stature.
AU Borkenstein M
SO Acta endocrinologica. Supplementum, (1986) Vol. 279, pp. 135-8. Journal code: 0370313. ISSN: 0300-9750.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198611
ED Entered STN: 2 Mar 1990
Last Updated on STN: 3 Feb 1997
Entered Medline: 25 Nov 1986
AB The effects of intranasal insufflation of the synthetic growth hormone releasing factor GRF 1-29-NH2 on serum growth hormone (GH) were investigated in five healthy prepubertal children with short stature. 100 micrograms/kg/body weight of synthetic GRF 1-29-NH2, 500 micrograms in 100 microliters water, were insufflated intranasally after careful cleaning of the nose. GRF 1-29-NH2 induced a prompt rise of serum GH levels with peak values at 15 minutes in all children investigated. Peak serum GH values were 28.3 +/- 12.0 ng/ml (mean +/- SD), range 17.1 - 47.6 ng/ml; delta GH was 27.0 +/- 12.2 ng/ml (mean +/- SD). Serum GH levels were still significantly raised 120 minutes after the insufflation of GRF 1-29-NH2 (p less than 0.05). No side effects, except for burning of the nasal mucosa in one patient, were observed. The results of this study demonstrate that intranasal insufflation of synthetic GRF 1-29-NH2 induces a prompt release of GH in otherwise normal children with short stature. Pulsatile intranasal insufflation of GRF 1-29-NH2 probably could be used for the treatment of some children with GH deficiency due to a defect at a suprapituitary level.

ANSWER 727 OF 991 MEDLINE on STN
AN 90287235 MEDLINE
DN PubMed ID: 2355952
TI Effects of human growth hormone in men over 60 years old.
AU Rudman D; Feller A G; Nagraj H S; Gergans G A; Lalitha P Y; Goldberg A F; Schlenker R A; Cohn L; Rudman I W; Mattson D E
CS Department of Medicine, Medical College of Wisconsin, Milwaukee.
NC 1D31 PE95008-02 (BHP)
SO The New England journal of medicine, (1990 Jul 5) Vol. 323, No. 1, pp. 1-6.
Journal code: 0255562. ISSN: 0028-4793.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, NON-P.H.S.)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199007
ED Entered STN: 24 Aug 1990
Last Updated on STN: 7 Mar 2003
Entered Medline: 20 Jul 1990
AB BACKGROUND. The declining activity of the growth hormone--insulin-like growth factor I (IGF-I) axis with advancing age may contribute to the decrease in lean body mass and the increase in mass of adipose tissue that occur with aging. METHODS. To test this hypothesis, we studied 21 healthy men from 61 to 81 years old who had plasma IGF-I concentrations of less than 350 U per liter during a six-month base-line period and a six-month treatment period that followed. During the treatment period, 12 men (group 1) received approximately 0.03 mg of biosynthetic human growth hormone per kilogram of body weight subcutaneously three times a week, and 9 men (group 2) received no treatment. Plasma IGF-I levels were measured monthly. At the end of each period we measured lean body mass, the mass of adipose tissue, skin thickness (epidermis plus dermis), and bone density at nine skeletal sites. RESULTS. In group 1, the mean plasma IGF-I level rose into the youthful range of 500 to 1500 U per liter during treatment, whereas in group 2 it remained below 350 U per liter. The administration of human growth hormone for six months in group 1 was accompanied by an 8.8 percent increase in lean body mass, a 14.4 percent decrease in adipose-tissue mass, and a 1.6 percent increase in average lumbar vertebral bone density (P less than 0.05 in each instance). Skin thickness increased 7.1 percent (P = 0.07). There was no significant change in the bone density of the radius or proximal femur. In group 2 there was no significant change in lean body mass, the mass of adipose tissue, skin thickness, or bone density during treatment. CONCLUSIONS. Diminished secretion of growth hormone is responsible in part for the decrease of lean body mass, the expansion of adipose-tissue mass, and the thinning of the skin that occur in old age.

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ANSWER 719 OF 991 MEDLINE on STN

AN 90370735 MEDLINE

DN PubMed ID: 2395807

TI Nasal absorption enhancers for biosynthetic human growth hormone in rats.

AU O'Hagan D T; Critchley H; Farraj N F; Fisher A N; Johansen B R; Davis S S; Illum L

CS Department of Pharmaceutical Sciences, University of Nottingham, U.K.

SO Pharmaceutical research, (1990 Jul) Vol. 7, No. 7, pp. 772-6. Journal code: 8406521. ISSN: 0724-8741.

CY United States

DT Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Priority Journals

EM 199010

ED Entered STN: 9 Nov 1990
Last Updated on STN: 9 Nov 1990
Entered Medline: 9 Oct 1990

AB The effects of several prospective absorption enhancers were assessed on the nasal absorption of biosynthetic human growth hormone (hGH) in the rat. These enhancers function by alternative mechanisms that include enzyme inhibition, reduction in mucus viscosity, and enhancement of membrane fluidity. The levels of plasma hGH achieved were determined by an enzyme-linked immunosorbent assay. The increase in peak height was calculated relative to nasal administration of hGH alone without any enhancers and the relative bioavailability was calculated with reference to subcutaneous injection data. A lysophospholipid, lysophosphatidylcholine, gave the highest peak concentration, with an increase in peak height of 450% and a relative bioavailability of 25.8%. However, the greatest increase in AUC (291%) was achieved with the aminopeptidase inhibitor, amastatin, which gave a relative bioavailability of 28.9%. A mucolytic agent, N-acetyl-L-cysteine, and a transmembrane fatty acid transporter, palmitoyl-DL-carnitine, were also found to promote the nasal absorption of hGH in this model, with relative bioavailabilities of 12.2 and 22.1%, respectively. Bestatin, an enzyme inhibitor, was not an effective absorption enhancer for hGH in this model.

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ANSWER 649 OF 991 MEDLINE on STN
AN 93232169 MEDLINE
DN PubMed ID: 8473411
TI Intranasal administration of human growth hormone (hGH) in combination with a membrane permeation enhancer in patients with GH deficiency: a pharmacokinetic study.
AU Hedin L; Olsson B; Diczfalusy M; Flyg C; Petersson A S; Rosberg S; Albertsson-Wikland K
CS Department of Physiology, University of Goteborg, Sweden.
SO The Journal of clinical endocrinology and metabolism, (1993 Apr) Vol. 76, No. 4, pp. 962-7.
Journal code: 0375362. ISSN: 0021-972X.
CY United States
DT (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199305
ED Entered STN: 4 Jun 1993
Last Updated on STN: 4 Jun 1993
Entered Medline: 18 May 1993
AB Recombinant human GH (hGH) combined with a permeation enhancer for the nasal mucosa, sodium tauro-24,25-dihydrofusidate (STDHF), was administered intranasally (in) in six patients with classical GH deficiency. Three different doses were tested (0.2, 0.4, and 0.8 IU/kg BW). The concentration of STDHF was 1% in all doses. As a comparison, all patients received a sc injection of hGH (0.1 IU/kg BW). Blood samples were obtained at frequent intervals for up to 8 h (in doses) or 24 h (sc dose) and analyzed for the plasma concentration of hGH. All three i.n. doses gave a rapid increase in hGH with peak maxima (Cmax) at 20-30 min, and a decline to baseline within 2-3 h. In contrast, the sc dose resulted in a Cmax 2-3 h after the injection, followed by a plateau phase for 2-3 h. The baseline was reached 12-14 h after administration. The uptake [area under the curve (AUC)] was considerably lower for all three in doses, i.e. 1.6-3% of the AUC obtained with the sc dose. However, the Cmax varied between 5.7 +/- 1.4% (0.8 IU/kg BW) and 15.8 +/- 2.1% (0.4 IU/kg BW) of the maximal peak with the sc dose. Of the in doses, 0.4 IU/kg BW resulted in the highest AUC and Cmax. A self-rating protocol was also used to estimate nasal sensations for up to 2 h after dosing. All sensations (itching, burning, sneezing, and running of the nose) were transient and tolerable. This study demonstrates that hGH can be administered intranasally in combination with STDHF. The in dosing results in a plasma peak of hGH very similar to the physiological endogenous peak. No side-effects were noted, other than a transient nasal irritation. Therefore, the nasal route for hGH administration offers a more physiological and more convenient alternative to injections for the treatment of GH deficiency.

ANSWER 609 OF 991 MEDLINE on STN
AN 94244084 MEDLINE
DN PubMed ID: 8187318
TI Serum growth hormone (GH) profiles after nasally administered GH in normal subjects and GH deficient patients.
AU Moller J; Lauersen T; Mindeholm L; Hoelgaard A; Ovesen P; Jorgensen J O; Christiansen J S
CS Department of Endocrinology, Aarhus University Hospital, Kommunehospitalet Aarhus C, Denmark.
SO Clinical endocrinology, (1994 Apr) Vol. 40, No. 4, pp. 511-3.
Journal code: 0346653. ISSN: 0300-0664.
CY ENGLAND: United Kingdom
DT (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199406
ED Entered STN: 29 Jun 1994
Last Updated on STN: 29 Jun 1994
Entered Medline: 20 Jun 1994
AB OBJECTIVE: GH-deficient patients are at present treated with daily subcutaneous GH injections. Further improvements in patient compliance and effects of treatment may occur with nasal administration. We have examined the absorption of nasally administered GH in healthy subjects and in GH deficient patients in two separate studies. DESIGN: Healthy subjects and GH deficient patient were examined in the morning after an overnight fast. Twelve IU of GH in a powder containing didecanoyl-L-alpha-phosphatidylcholine as enhancer were administered in the nostrils (6 IU in each nostril) at the beginning of the study in the healthy subjects. The GH deficient subjects received a total of 6 IU GH/m2 intranasally. Blood was frequently sampled for up to 4 hours. Before and after nasal application anterior rhinoscopy was performed. PATIENTS: Eight normal subjects and 7 GH deficient patients. MEASUREMENTS: Serum GH. RESULTS: (mean +/- SD) Mean maximum concentration (Cmax) in the normal group was 57.6 mU/l +/- 36.9 with a mean time to obtain Cmax (Tmax) of 65 +/- 47 min. In the GH deficient group Cmax was 56.1 +/- 26.1 mU/l with a mean Tmax of 45 +/- 15 min. The subjects did not report any major inconvenience during the study. Anterior rhinoscopy did not reveal changes. CONCLUSION: Nasally administered GH is absorbed to a significant degree from the nasal mucosa without obvious untoward effects in the short term. These data encourage further studies with nasal GH administration.

ANSWER 604 OF 991 MEDLINE on STN

AN 94348784 MEDLINE

DN PubMed ID: 8069548

TI Review: clinical opportunities provided by the nasal administration of peptides.

AU Harris A S

CS Ferring Research, Malmo, Sweden.

SO Journal of drug targeting, (1993) Vol. 1, No. 2, pp. 101-16. Ref: 87
Journal code: 9312476. ISSN: 1061-186X.

CY Switzerland

DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)

LA English

FS Priority Journals

EM 199409

ED Entered STN: 6 Oct 1994
Last Updated on STN: 6 Oct 1994
Entered Medline: 26 Sep 1994

AB Peptides are rapidly being developed as potential new therapeutic agents and the nasal route is being evaluated as a means of achieving systemic absorption. Current research in man is being directed at a number of polypeptides, including calcitonin, growth hormone releasing hormones (GHRH), insulin, gonadotropin hormone releasing hormones (GnRH) and vasopressin analogues. The underlying protective functions of the nose provide anatomical, temporal and enzymatic barriers to absorption of peptides. The nasal route is relatively unsuccessful when used for high molecular weight polypeptides. Penetration enhancers improve bioavailability but are poorly tolerated. Reproducibility of effect is highly variable, major contributing factors including the site of deposition and type of delivery system as well as changes in the mucous secretion and mucociliary clearance, compounded by the presence of allergy, hay fever and the common cold in treated subjects. The future potential for this route lies in development of effective and well tolerated formulations in highly accurate delivery systems for the chronic administration of peptides, enabling the replacement of impractical and invasive intravenous injections in patients on lifelong substitution treatment for various deficiency states.

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> D HIS

     (FILE 'HOME' ENTERED AT 09:11:02 ON 03 AUG 2007)

     FILE 'MEDLINE, BIOSIS, EMBASE, CAPLUS, SCISEARCH, LIFESCI, CONFSCI'
     ENTERED AT 09:11:51 ON 03 AUG 2007
L1        857793 S INTRATHECAL OR INTRACEREBRAL OR LUMBAR OR ICV OR INTRACEREBRO
L2        329797 S GH OR GROWTH HORMONE? OR SOMATOT?
L3          5755 S L1 AND L2
L4          4401 S L1(P)L2
L5       1483730 S STROKE? OR ISCHEMI? OR HYPOXI?
L6          4401 S L3 AND L4
L7          1493 DUPLICATE REMOVE L6 (2908 DUPLICATES REMOVED)

     FILE 'MEDLINE' ENTERED AT 09:19:29 ON 03 AUG 2007
L8         53689 S GH? OR SOMATOTROPIN? OR SOMATOTROPHIN?
L9         82531 S L8 OR GROWTH HORMONE?
L10          827 S L9 AND (INTRATHECAL OR INTRACEREBRAL OR LUMBAR OR ICV OR INT
L11          868 S L7
L12          314 S L7 NOT L10

     FILE 'USPATFULL, USPAT2' ENTERED AT 09:22:14 ON 03 AUG 2007
L13        13553 S L3
L14         5526 S L13 AND L5
L15         5526 S L13(P)L5

     FILE 'MEDLINE, BIOSIS, EMBASE, SCISEARCH, CAPLUS, LIFESCI, CONFSCI'
     ENTERED AT 09:24:27 ON 03 AUG 2007
L16           99 S L3 AND L5

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DATE: Friday, August 03, 2007

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☐	L1	GH OR GROWTH HORMONE OR SOMATOTROPHIN OR SOMATOTROPIN	938874
☐	L2	STROKE OR ISCHEMIA OR ISCHEMIC OR HYPOXIC OR HYPOXIA	574186
☐	L3	L2 AND L1	37898
☐	L4	LUMBAR OR INTRATHECAL OR INTRACEREBROVENTRICULAR OR ICV OR INTRAVENTRICULAR OR NASAL OR OLFACTORY OR INTRAPARENCHYMAL	118137
☐	L5	L4 AND L3	5107

END OF SEARCH HISTORY